

# List of All Chemicals

## P Cinchona spp (Rubiaceae)

Common name(s)

Quinine

How used

Medicinal

\*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Chemical	Plant Part	Low PPM	High PPM	StdDev	*Reference
(-)EPICATECHIN	Bark	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
<b>Activities (38)</b>					
5-Lipoxygenase-Inhibitor IC50=22-50 uM/l					
ACE-Inhibitor					IC50=0.216 mM/l
ACE-Inhibitor 0.5 mg/ml rbt (weak activity)					
Allelochemical					Hanke, F. J., Natural Products as a Resource for Biologically Active Compounds, Thesis, U. Cal (Santa Cruz), 1986, 252 pp
AntiEBV					Economic & Medicinal Plant Research, 6: 189.
AntiHIV EC50=2 ug/ml					
Antiaggregant					
Antianaphylactic					
Antibacterial					
Antidiabetic 30 mg/kg rat					
Antihepatitic					Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Antihyperglycemic					
Antiinflammatory					
Antileukemic					Economic & Medicinal Plant Research, 6: 189.
Antileukotriene					
Antilipoperoxidant					
Antimutagenic					
Antioxidant IC50=6.3 ug/ml					
Antiperoxidant					Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiviral EC50=2 ug/ml					
Beta-Adrenergic Receptor Blocker 10 uM					Zhu, M., Phillipson, J. D., Greengrass, P. M., Bowery, N. E., Cai, Y. 1997. Plant Polyphenols: Biologically Active Compounds or Non-Selective Binders to Protein? Phytochemistry, 44(3): 441-447.
COMP-Inhibitor					Dullo, A. G., et al. 1999. Efficacy of a green tea extract rich in catechin polyphenols and caffeine in increasing 24-h energy expenditure and fat oxidation in humans. Am. J. Clinical Nutrition, 70: 1040-1045.
Cancer-Preventive					Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardiotonic					
Choline-Sparing					
Cytotoxic TC50=>100 ug/ml					
Hypocholesterolemic					
Hypoglycemic					
Immunostimulant					
Insulinogenic					Economic & Medicinal Plant Research, 6: 170.
Lipoxygenase-1-Inhibitor IC50=60 mM					
Lipoxygenase-Inhibitor IC50=140 uM					Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507. ACS, Washington 402 pp.
Lipoxygenase-Inhibitor IC97=5 mM					Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. J. Agric. Food Chem. 38: 688-690.
Pancreatogenic					
Pesticide					
Reverse-Transcriptase-Inhibitor 10 ng/ml					McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. Alternative Therapies, 6(3): 61-82.
Vasodilator uM					McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. Alternative Therapies, 6(3): 61-82.
Xanthine-Oxidase-Inhibitor IC50=>40					Hatano, T., Yasuhara, T., Yoshihara, R., Agata, I., Noro, T., and Okuda, T. 1989. Effects of Interaction of Tannins with Co-existing Substances.VII. Inhibitory Effects of Tannins Related Polyphenols on Xanthine Oxidase. Chem. Pharm. Bull. 38(5): 1224-1229

**Activities (2)**

Amebicide Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.  
 Pesticide

3-ALPHA,17-ALPHA-CINCHOPHYLLINE Leaf -- -- Wealth of India.

**Activities (3)**

Amebicide IC<sub>50</sub>=1.88 ug/ml Vlietinck, A.J. and Domisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.  
 Cytotoxic IC<sub>50</sub>=3.55 ug/ml Vlietinck, A.J. and Domisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.  
 Pesticide

3-ALPHA,17-BETA-CINCHOPHYLLINE Leaf -- -- Wealth of India.

**Activities (3)**

Amebicide IC<sub>50</sub>=3.50 ug/ml Vlietinck, A.J. and Domisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.  
 Cytotoxic IC<sub>50</sub>=0.4 ug/ml Vlietinck, A.J. and Domisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.  
 Pesticide

3-EPIQUINAMINE Leaf -- -- Wealth of India.

ALIZARIN-2-METHYL-ETHER Tissue Culture -- -- Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

**Activities (3)**

Antibacterial Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  
 Pesticide  
 Phytoalexin Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

ALKALOIDS Leaf -- 10000.0 0.06 ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

ALKALOIDS Bark 50000.0 160000.0 1.59 \*

ALPHA-QUINOVINE Bark 5000.0 10000.0 \*

ARICINE Plant -- -- \*

**Activities (4)**

(-)Chronotropic Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.  
 Amebicide IC<sub>50</sub>=3.6 ug/ml Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.  
 Cytotoxic IC<sub>50</sub>>100 ug/ml Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.  
 Pesticide

ASH Seed -- 60000.0 0.36 CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

BETA-QUINOVINE Bark 5000.0 10000.0 \*

BETA-SITOSTEROL Bark -- -- Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

**Activities (47)**

Androgenic  
 Angiogenic  
 Anorexic Martindale's 28th  
 Antiadrenomic Merck 11th Edition  
 Antiandrogenic Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.  
 Antibacterial Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.  
 Anticancer (Breast) Madhavi, D. L., Bomser, J., Smith, M., Singletary, K. 1998. Isolation of Bioactive Constituents from Vaccinium myrtillus (Bilberry) Fruits and Cell Cultures. Plant Sci., 131(1): 95-103.  
 Anticancer (Cervix)  
 Anticancer (Lung)  
 Antiedemic IC<sub>50</sub>=320 mg/kg orl Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.  
 Antiestrogenic Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.  
 Antifeedant  
 Antifertility Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.  
 Antigonadotrophic Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.  
 Antihyperlipoproteinaemic Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Antileukemic				
Antilymphomeric				
Antimutagenic 250 ug/ml				
Antiophidic 2.3 mg mus		Economic & Medicinal Plant Research, 5: 363.		
Antioxidant IC44=10 uM				
Antiprogestational		Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.		
Antiprostaglandin 30 mg/day/12 wks				
Antiprostatadenomic		Merck 11th Edition		
Antiprostatic 10-20 mg 3 x/day/orl man				
Antipyretic		Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.		
Antitumor (Breast)		Madhavi, D. L., Bomser, J., Smith, M., Singletary, K. 1998. Isolation of Bioactive Constituents from Vaccinium myrtillus (Bilberry) Fruits and Cell Cultures. Plant Sci., 131(1): 95-103.		
Antitumor (Cervix)				
Antitumor (Lung)				
Antiviral		Abid Ali Khan, M.M., Jain, D.C., Bhakuni, R.S., Zaim, M., and Thakur, R.S. 1991. Occurrence of some antiviral sterols in Artemisia annua. Plant Science, 75: 161-165, 1991.		
Apoptotic				
Artemicide LC50=110 ppm		Jung, J.H., Pummangura, S., Chaichantipyuth, C., Patarapanich, C., and McLaughlin, J.L. 1989. Bioactive Constituents of Melodorum fruticosum. Phytochemistry, 29(5): 1667-1670. 1990.		
Cancer-Preventive		Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.		
Candidicide		Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.		
Caspase-8-Inducer				
Estrogenic				
Febrifuge		Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.		
Gonadotrophic		Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.		
Hepatoprotective				
Hypocholesterolemic 2-6 g/man/day/orl		Martindale's 30th		
Hypocholesterolemic 9-3,330 mg/man/day/orl		Martindale's 28th		
Hypoglycemic		Ivorra, M.D., Paya, M., and Villar, A. 1989. A Review of Natural Products and Plants as Potential Antidiabetic Drugs. Journal of Ethnopharmacology, 27: 243-275, 1989.		
Hypolipidemic 2-6 g/day				
Pesticide				
Spermicide		Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.		
Ubiquitin		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.		
Ulcerogenic 500 mg/kg ipr rat				

CAFFEIC-ACID Bark -- -- Chemical Constituents of Oriental Herbs (3 diff. books)

#### Activities (102)

Aldose-Reductase-Inhibitor 4 ug/ml (weak activity)		Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. Sankyo Kenkyusho Nempo, 43: 99-110.
Allergenic		
Analgesic		
AntiHIV EC50=200 ug/ml		
AntiLegionella		
Antiade noviral		Economic & Medicinal Plant Research, 5: 207.
Antiaggregant		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiaging		
Antiatherogenic		
Antibacterial		
Anticancer		
Anticarcinogenic		Economic & Medicinal Plant Research, 6: 189.
Antidepressant		
Antiedemic		Economic & Medicinal Plant Research, 6: 189.
Antielastase IC50=93 um/l		
Antielastase IC50=86 ug/ml (475 uM)		
Antiescherichic		
Antiflu		Economic & Medicinal Plant Research, 5: 207.
Antigonadotropic		Jim Duke's personal files.
Antihemolytic 25 uM		Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. Phytochemistry, 36(3): 579-583. 1994.
Antihepatoadenomic 200 ppm diet orl mus		
Antihepatotoxic		
Antiherpetic 50 ug/ml		
Antiherpetic EC50=>50 ug/ml		
Antihistaminic		

Antihyperthyroid	
Antiinflammatory	
Antileukemic	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antileukotriene	
Antimelanogenic	Ki Soon Rhee, Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health, Ch.18.
Antimutagenic	Ki Soon Rhee, Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health, Ch.18.
Antinitrosaminic	
Antiphidic	
Antioxidant 50 uM	
Antioxidant IC57=30 ppm	
Antioxidant 1/3 quercetin	
Antioxidant 30 mM	
Antioxidant 1.3 x Vit. E	
Antioxidant 1/2 BHA	
Antiperoxidant IC50=44 uM	Planta Medica, 57: A54, 1991.
Antiperoxidant IC35=200 ug/ml	
Antiperoxidant IC85=100 ug/ml	
Antiproliferant	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antiprostaglandin	
Antiradicular 10 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antiradicular 1/3 quercetin	
Antiradicular 30 mM	
Antiradicular IC50=32-35 uM	
Antiseptic	
Antispasmodic EC50=3.4-15 uM	Phytotherapy Research, 4: 73.
Antistaphylococcic	
Antistomatisic	Economic & Medicinal Plant Research, 5: 207.
Antisunburn	
Antithiamin	Phenolic Compounds in Food and Their Effects on Health, 69.
Antithyroid	Jim Duke's personal files.
Antitumor 200 ppm diet orl mus	
Antitumor (Skin)	
Antitumor-Promoter IC42=10 uM	Cancer Research, 48: 5941.
Antiulcerogenic	
Antivaccinia	Economic & Medicinal Plant Research, 5: 207.
Antiviral IC50=62.5 ug/ml	
Anxiolytic	
CNS-Active	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
COX-2-Inhibitor IC32=100 uM	
Calcium-Antagonist IC50=1.2 uM rbt	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Carcinogenic 2% (diet)	
Chemopreventive	
Cholagogue	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Choleretic	Williamson, E. M. and Evans, F. J.. Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Clastogenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Co-carcinogenic	
Collagen-Sparing	
Cytoprotective	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Cytotoxic TC50=200 ug/ml	
DNA-Active	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
DNA-Protective	
Diuretic	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Fungicide MIC=0.4 mg/ml	
Hepatocarcinogenic 400 ppm diet orl mus (in the absence of alcohol)	
Hepatoprotective	Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 210.
Hepatotropic	
Histamine-Inhibitor	
Immunostimulant	

Leukotriene-Inhibitor					
Lipoxygenase-Inhibitor IC27=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. <i>J. Agric. Food Chem.</i> 38: 688-690.				
Lipoxygenase-Inhibitor IC50=62-148 uM					
Lyase-Inhibitor IC50=94-164 uM					
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.25.				
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.19.				
Pesticide					
Prooxidant					
Prostaglandigenic					
Sedative 500 mg					
Sunscreen IC50=2.5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. <i>Fitoterapia</i> 64(2): 134-136, 1993.				
Sunscreen IC91=5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. <i>Fitoterapia</i> 64(2): 134-136, 1993.				
Sunscreen IC98=25 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. <i>Fitoterapia</i> 64(2): 134-136, 1993.				
Tumorigenic	Jim Duke's personal files.				
Vulnerary					
Xanthine-Oxidase-Inhibitor IC50=39.21 uM	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livingston, Edinburgh.				

CATECHIN-TANNINS	Bark	30000.0	50000.0	-0.86	*
CATECHOL-TANNINS	Bark	--	80000.0		Bisset, N.G., ed. 1994. <i>Herbal Drugs and Phytopharmaceuticals</i> . CRC Press. Boca Raton, FL. 566 pp.
CINCHOFULVIC-ACID	Plant	--	--		*
CINCHOLIC-ACID-BETA-D-QUINOVOSIDE	Bark	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
CINCHONAIN-IA	Bark	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
CINCHONAIN-IB	Bark	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
CINCHONAIN-IC	Bark	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
CINCHONAIN-ID	Bark	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
CINCHONAIN-IIA	Bark	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
CINCHONAIN-IIB	Bark	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)

**Activities (3)**

Antiherpetic	Economic & Medicinal Plant Research, 5: 194.
Antiviral	Economic & Medicinal Plant Research, 5: 194.
Pesticide	

CINCHONIDINE	Bark	12500.0	80000.0	1.0	*
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**Activities (6)**

Antiflu	
Antiherpetic	
Antimalarial 150-500 mg/man/4 x day	
Antipyretic	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Antiviral	
Pesticide	

CINCHONINE	Bark	15000.0	80000.0		*
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**Activities (7)**

Antiaggregant IC50=125-180 uM	
Antimalarial LD50=152 (ipr rat)	Merck 11th Edition
Antipyretic	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
MDR-Inhibitor 250 mg/kg igs rat	Genne, P., Duchamp, O., Solary, E., Magnette, J., Belon, J. P., Chauffert, B. 1995. Cinchonine Per OS: Efficient Circumvention of P-Glycoprotein-Mediated Multidrug Resistance. <i>Anticancer Drug Design</i> , 10(2): 103-118.
MDR-Inhibitor 5 uM	
PAF-Inhibitor IC50=125-180 uM	

CINCHONININE	Bark	--	--	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
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CINCHOPHYLLAMINE	Plant	--	--	J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
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#### Activities (5)

Analgesic				Wealth of India.
Anesthetic				Wealth of India.
CNS-Depressant				Wealth of India.
Hypotensive				Wealth of India.
Tonic				Wealth of India.

CINCHOTANNIC-ACID	Plant	--	--	*
CINCHOTINE	Plant	--	--	ANON. 1948-1976. <i>The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi.</i> 11 volumes.
CONQUINAMINE	Bark	--	--	ANON. 1948-1976. <i>The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi.</i> 11 volumes.
CUPREINE	Bark	--	--	ANON. 1948-1976. <i>The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi.</i> 11 volumes.
CUSCAMIDINE	Bark	--	--	ANON. 1948-1976. <i>The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi.</i> 11 volumes.
CUSCAMINE	Bark	--	--	ANON. 1948-1976. <i>The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi.</i> 11 volumes.
CUSCONDIDINE	Bark	--	--	ANON. 1948-1976. <i>The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi.</i> 11 volumes.
CUSCONINE	Bark	--	--	ANON. 1948-1976. <i>The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi.</i> 11 volumes.
DICINCHONINE	Bark	--	--	ANON. 1948-1976. <i>The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi.</i> 11 volumes.
DICONQUININE	Bark	--	--	ANON. 1948-1976. <i>The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi.</i> 11 volumes.
DIGIFERRUGINEOL	Tissue Culture	--	--	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.

#### Activities (6)

Anticarcinomic				Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Antileukemic ED50=0.09 ug/ml				
Antiseptic				Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Cytotoxic EC50=5.9 ug/ml				
Cytotoxic ED50(KB)=0.09 ug/ml				
Phytoalexin				Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.

DIHYDROQUINIDINE	Plant	--	--	J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
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#### Activities (2)

Antimalarial				
Pesticide				
DIHYDROQUININE	Leaf	--	--	Wealth of India.
EO	Bark	--	50.0	-0.96
				Bisset, N.G., ed. 1994. <i>Herbal Drugs and Phytopharmaceuticals.</i> CRC Press. Boca Raton, FL. 566 pp.
EPICATECHIN	Bark	--	--	*

#### Activities (40)

Allelochemical IC100=1 mM	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, <i>Herbs, Spices &amp; Medicinal Plants: Recent Advances in Botany, Horticulture, &amp; Pharmacology</i> , v. 4, Oryx Press, Phoenix, 1989, 267pp.
Anabolic	
AntiEBV	Economic & Medicinal Plant Research, 6: 189.
AntiHIV EC50=2 ug/ml	
Antiaggregant IC94=200 ug/ml	

Antibacterial	
MIC=>1,000 ug/ml	
Anticomplementary 1/2 aspirin	
Antidiabetic 30 mg/kg rat	
Antifeedant	
Antihepatitic	Vlietinck, A.J. and Dommisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Antihyperglycemic	
Antiinflammatory	
Antileukemic IC50=>10 ug/ml	
Antilipoperoxidant	
Antimutagenic	
Antioxidant IC50=6.3 ug/ml	Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats'(SHRSP) Ingesting Persimmon Tannin. <i>Chem. Pharm. Bull.</i> 38(4): 1049-1052, 1990.
Antioxidant 2.5 x Vit. E	
Antioxidant IC50=10.2 uM	
Antioxidant 3/4 quercetin	
Antiperoxidant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiviral	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardiotonic	
Choline-Sparing	Singleton, V.L. 1981. Naturally Occurring Food Toxicants: Phenolic Substances of Plant Origin Common in Foods. <i>Advances in Food Research</i> 27: 149-217.
Hepatotropic	
Hypocholesterolemic	Singleton, V.L. 1981. Naturally Occurring Food Toxicants: Phenolic Substances of Plant Origin Common in Foods. <i>Advances in Food Research</i> 27: 149-217.
Hypoglycemic	
Insulinogenic	Economic & Medicinal Plant Research, 6: 170.
Interleukin-1-alpha-Inhibitor	
Interleukin-6-mRNA-Inhibitor	
Lipoxygenase-Inhibitor IC50=140 uM	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.
Lipoxygenase-Inhibitor IC97=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. <i>J. Agric. Food Chem.</i> 38: 688-690.
NO-Inhibitor	
Pancreatogenic	
Peroxynitrite-Scavenger IC50=0.181 ug/ml	
Pesticide	
Propeptic	
TNF-alpha-Inhibitor	
Xanthine-Oxidase-Inhibitor IC50=>40	

EPIQUINAMINE	Bark	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
EPIQUINIDINE	Plant	--	--	*
EPIQUININE	Bark	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
FAT	Seed	5000.0	160000.0	-0.56
GALLO-TANNIN	Plant	--	--	List, P.H. and Horhammer, L, Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

#### Activities (2)

Cardiotoxic  
Reverse-Transcriptase-Inhibitor

HOMOCINCHONINE	Plant	--	--	*
HYDROCINCHONIDINE	Plant	--	--	*
HYDROQUINIDINE	Bark	--	--	*

#### Activities (3)

Antiarrhythmic 450-600 mg/man/day Martindale's 29th  
Antimalarial Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

HYDROQUININE	Bark	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
<b>Activities (1)</b>				
Depigmentor				Merck 11th Edition
ISOCINCHOPHYLLAMINE	Plant	--	--	J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
JAVANINE	Bark	--	--	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
METHYLSUCCIRUBINE	Plant	--	--	List, P.H. and Horhammer, L, Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
NORSOLORINIC-ACID	Bark	--	--	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
PARICINE	Plant	--	--	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
PERICINE	Plant	--	--	List, P.H. and Horhammer, L, Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
PHLOBAPHENE	Bark	--	--	List, P.H. and Horhammer, L, Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
PROANTHOCYANIDIN-A-2	Bark	--	--	Chemical Constituents of Oriental Herbs (3 diff. books)
PROCYANIDIN-B-5	Bark	--	--	Chemical Constituents of Oriental Herbs (3 diff. books)
PROCYANIDIN-C-1	Plant	--	--	Chemical Constituents of Oriental Herbs (3 diff. books)
PROTEIN	Seed	--	180000.0 -0.48	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
PURPURIN-1-METHYL-ETHER	Tissue Culture	--	--	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
<b>Activities (2)</b>				
Antibacterial	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Pesticide				
QUEBRACHOL	Bark	--	--	List, P.H. and Horhammer, L, Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
QUINACIMINE	Plant	--	--	*
QUINAMINE	Bark	--	--	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
QUINIC-ACID	Bark	50000.0	80000.0	*
<b>Activities (1)</b>				
Choleretic				Fitoterapia No.5-1986.
QUINICINE	Bark	--	--	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<b>Activities (2)</b>				
Antimalarial IC50=11.2 ug/ml	Vlietinck, A.J. and Domisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.			
Cytotoxic IC50=3.2 ug/ml	Vlietinck, A.J. and Domisse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.			
QUINIDINE	Bark	200.0	40000.0	*
<b>Activities (23)</b>				
Abortifacient				
Allergenic				
Amebicidic IC50=16.6 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.			
Analgesic				
Antiarrhythmic 72 mg/kg ipr mus	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.			
Antiarrhythmic ED50=60 uM/kg	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.			
Anticholinergic	Martindale's 28th			
Antihiccup				
Antimalarial 10 mg/kg/orl/man/8 hrs	Martindale's 29th			

Antitachycardic					
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
Cardiodepressant	Williamson, E. M. and Evans, F. J., <i>Potter's New Cyclopaedia of Botanical Drugs and Preparations</i> , Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.				
Dermatitigenic					
Emetic					
Hemolytic	Neuwinger, H. D. 1996. <i>African Ethnobotany - Poisons and Drugs</i> . Chapman & Hall, New York. 941 pp.				
Hypotensive	Martindale's 29th				
Immunosuppressant	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
Laxative	Martindale's 29th				
MDR-Inhibitor 100 uM	Critchfield, J. W., Welsh, C. J., Phang, J. M., Yeh, G. C. 1994. Modulation of Adriamycin Accumulation and Efflux by Flavonoids in HCT-15 Colon Cells. Activation of P-Glycoprotein as a Putative Mechanism. <i>Biochem Pharmacol</i> , 48(7): 1437-1445.				
MDR-Inhibitor IC50=1-12 uM					
Myorelaxant	Neuwinger, H. D. 1996. <i>African Ethnobotany - Poisons and Drugs</i> . Chapman & Hall, New York. 941 pp.				
Oxytocic					

QUININE	Bark	8000.0	40000.0	-1.0	*
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### Activities (32)

Abortifacient					
Allergenic					
Amebicide IC50=14.8 ug/ml	Williamson, E. M. and Evans, F. J., <i>Potter's New Cyclopaedia of Botanical Drugs and Preparations</i> , Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.				
Analgesic					
Anesthetic	Wealth of India.				
Antibacterial					
Antidysenteric					
Antifeedant					
Antifibrillary	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
Antihemorrhoidal	Wealth of India.				
Antilumbagin	Wealth of India.				
Antimalarial IC50=0.18 ug/ml	Vlietinck, A.J. and Domisse, R.A. eds. 1985. <i>Advances in Medicinal Plant Research</i> . Wiss. Verlag. Stuttgart.				
Antineuragic	Wealth of India.				
Antineuritic	Wealth of India.				
Antipyretic	Merck 11th Edition				
Antisciatic	Wealth of India.				
Antitrypanosomal					
Antiyeast					
Apertif					
Astringent					
Cardiodepressant	Williamson, E. M. and Evans, F. J., <i>Potter's New Cyclopaedia of Botanical Drugs and Preparations</i> , Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.				
Cytotoxic IC50=183 ug/ml	Vlietinck, A.J. and Domisse, R.A. eds. 1985. <i>Advances in Medicinal Plant Research</i> . Wiss. Verlag. Stuttgart.				
Dermatitigenic					
FLabor FEMA 5-83 (-100)	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
MDR-Inhibitor IC50=4-17 uM					
Oxytocic					
Pesticide					
Phototoxic					
Protisticide					
Spermicide	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
Stomachic	Merck 11th Edition				
Trypanocide					

QUININIDINE	Bark	--	--	Leung, A.Y., <i>Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics</i> , John Wiley & Sons, New York, 1980.
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QUINOLIC-ACID-BETA-6-DESOXY-D-GLUCOSIDE	Bark	--	--	List, P.H. and Horhammer, L., <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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QUINOVIC-ACID	Bark	1000.0	15000.0	*
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### Activities (3)

Antiinflammatory				
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Choleretic				Fitoterapia No.5-1986.
QUINOVIC-ACID-3-RHAMNOside	Bark	--	--	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
QUINOVIC-ACID-BETA-6-DESOXY-D-GLUCOSIDE	Bark	--	--	List, P.H. and Horhammer, L, Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
QUINOVIC-ACID-BETA-D-GLUCOSIDE	Bark	--	--	List, P.H. and Horhammer, L, Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
QUINOVIC-ACID-BETA-D-QUINOVOSIDE	Bark	--	--	Chemical Constituents of Oriental Herbs (3 diff. books)
QUINOVIN	Bark	--	--	*
QUINOVOSE	Bark	--	--	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
RESIN	Bark	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
STARCH	Bark	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
<b>Activities (5)</b>				
Absorbent				Martindale's 29th
Antidote (Iodine)				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antinesidioblastosic				Martindale's 29th
Emollient				Martindale's 29th
Poultice				Martindale's 29th
SUCIRUBINE	Plant	--	--	J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
TANNINS	Bark	--	--	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
TETRA-O-GALLOYL-BETA-D-GLUCOSE	Bark	--	--	List, P.H. and Horhammer, L, Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
WAX	Bark	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.